**Amendments to the Specification:**

Pages 3-4, for the paragraph bridging pages 3-4, please substitute the following paragraph:

It has therefore been shown that in order to achieve pulse energies of a nanojoule and more, it is necessary to further amplify the light pulses produced by known fiber-based laser systems. A device that is suitable for this purpose is previously known from U.S. 5,880,877, for example. In the previously known system, an optically pumped amplifier fiber is used, in which the light pulses produced by a pulsed laser light source are amplified. In this connection, the amplifier fiber has a negative group velocity dispersion in the corresponding wavelength range (i.e. the fiber is operated in the anomalous-dispersion regime). The solitonic optical effects that are promoted thereby are utilized, in the previously known system, in order to generate light pulses with an extremely short pulse duration, in the range of 30 femtoseconds. It is problematic that although the corresponding solitones have a short and intense peak, pulse wings having a temporally wide spread are formed, and that a significant part of the total pulse energy goes to these pulse wings. In order to eliminate this undesirable temporal pulse shape, a frequency doubler is used in

the previously known system, which is a medium having non-linear optical properties. Because of their comparatively low intensity, the aforementioned pulse wings do not contribute to the frequency-doubled light pulse, so that in total, a correction of the temporal pulse shape is achieved. A significant disadvantage of the previously known system is that, for one thing, a significant energy loss is unavoidably connected with the frequency doubling. Furthermore, the wavelength of the generated light pulses leave the technologically interesting wavelength range around 1.55 µm, because of the frequency doubling.

Page 5, for the second full paragraph, please substitute the following paragraph:

These and other objects are achieved, according to the invention, by providing a device for amplification of light pulses having an optically pumped amplifier fiber with a positive group velocity dispersion (i.e. the fiber is operated in the normal-dispersion regime). The amplifier fiber has non-linear optical properties so that the optical spectrum of the light pulses is broadened, taking advantage of non-linear self-phase modulation during the amplification process.

Pages 6-7, for the paragraph bridging pages 6-7, please substitute the following paragraph:

It is practical if, in the case of the device according to the invention, the stretcher precedes the amplifier fiber, so that, as outlined above, the temporal stretching of the light pulses is compensated on the basis of the optical properties of the amplifier fiber. In this connection, it is advantageous if the optical stretcher is configured as an optical fiber having a negative group velocity distribution, i.e. the fiber is operated in the anomalous-dispersion regime. A conventional telecommunications glass fiber having a negative group velocity dispersion can be used in the device according to the invention. A photonic crystal fiber can serve in laser systems having short-wave emission, to achieve the stretching at a negative group velocity dispersion.

Pages 13-15, for the paragraph spanning pages 13-15, please substitute the following paragraph:

--The light pulses emitted by laser light source 1 are coupled into a commercially available telecommunications fiber 2. Fiber 2 (which is a fiber operated in the anomalous-dispersion regime) has a negative group velocity dispersion

(e.g. - 0.023 $ps^2/m$). In the embodiment shown in FIG. 1, fiber 2 functions as an optical stretcher, in which the light pulses of pulsed laser light source 1 are temporally stretched. The stretched light pulses then pass through an optically pumped amplifier fiber 3, which is an optical fiber highly doped with erbium ions (500 to 1000 ppm). According to the invention, amplifier fiber 3 <u>(which is a fiber operated in the normal-dispersion regime)</u> has a positive group velocity dispersion (e.g.+0.057 $ps^2/m$), so that the occurrence of solitonic optical effects in amplifier fiber 3 is prevented. The doping of amplifier fiber 3 is such that attenuation of the light (wavelength 1.5 µm) that passes through the fiber, by 80 decibels per meter, occurs without optical pumping. Amplifier fiber 3 is pumped by two laser diodes 4, in the device shown in Fig. 1, which work at a wavelength of 980 nm or 1480 nm. In experiments, laser diodes having an output power of 200 mW each were used. The light of the laser diodes is coupled into amplifier fiber 3 by way of so-called wavelength-division multiplexing or WDM couplers 5. Amplifier fiber 3 has non-linear optical properties, which has the result that during the amplification process, the optical spectrum of the light pulses temporally stretched by means of fiber 2 is broadened, taking advantage of non-linear self-phase modulation. Because of the positive group velocity

dispersion of amplifier fiber 3, the light pulses that were previously stretched using fiber 2 are also temporally compressed. At the output of amplifier fiber 3, light pulses are therefore available that have a pulse duration of $\leq$ 100 femtoseconds. In order to prevent the occurrence of excessive non-linearity, the light pulses are coupled out of amplifier fiber 3 by means of a lens 6 after the amplification process. Two wave plates 7 and 8 are provided in order to adjust a horizontal polarization state of the light pulses. Alternatively, a fiber-optic polarization plate could also be used. Subsequently, the light pulses are compressed to a minimal pulse duration in a silicon prism compressor 9, through which they pass in two ways. To prevent reflection losses within prism compressor 9,the prisms are arranged at the Brewster angle. In experiments, it was possible to achieve light pulses having a pulse duration of 65 femtoseconds and a pulse energy of 1.5 nanojoules at the output of the device shown. At a repetition frequency of 67 MHz, these pulses correspond to an average output power of 110 mW. Instead of the prism compressor, the use of a lattice compressor, a so-called "chirped" mirror, or a so-called fiber Bragg grating would also be easily possible.--